Society Reports.

PHILADELPHIA NEUROLOGICAL SOCIETY.

Stated Meeting, October 28, 1889.

The Vice-President, Dr. WHARTON SINKLER, in the Chair.

A CASE OF HEMIANOPSIA WITH DYSLEXIA; ALSO JACKSONIAN EPILEPSY.

By CHAS. K. MILLS, M.D., and G. E. DE SCHWEINITZ, M.D.

J. H. C., aged forty-five, white, collector, was sent to Dr. Mills by Dr. J. H. Packard, of Philadelphia. He had no history of syphilis, but about six years ago had two attacks of acute rheumatism. He had suffered with headache since boyhood. Some failing sight and dizziness had come on during the summer of 1888. He has headache at time, but not steadily; sometimes he goes to bed with it and gets up without it.

December 17, 1888, while walking in the street, his left hand and arm felt queer, and became affected with spasm, shaking so that he had to hold it with the other hand. He got into a car, the arm twitching and jerking, and before he reached home had convulsions with unconsciousness. He was taken home, and found, when he came to his senses, that he was partially paralyzed in the right arm and leg, the loss of power being most marked in the leg. He thinks he has no paralysis of the face, but his speech was much affected for two or three weeks. He soon recovered from the paresis, but had a second "fit" in about three months, having three spasms within an hour. He does not know how these spasms began, how they spread, and how long they continued. Since then he has had no seizures, and this series of attacks did not leave him paralyzed or his speech affected; but he discovered that he could not see half of objects to his right.

He reads in a very peculiar way—slowly, and pronouncing each word separately, or at the most two or three words; he seems to have difficulty in seeing the word; he *says* that he sees it plainly, but that he soon gets mixed and confused. Although he sees the words, it takes him a long time to form the idea of them. Sometimes

he can scarcely make out words. In his own way he can go on for a short time reading, and then his brain seems to exhaust; he gets confused. Occasionally, when walking in the street, he imagines he sees something that does not exist—always to the right. Hearing and touch are normal.

The following notes, by Dr. de Schweintz, describe his ocular condition:

In the right eye the sharpness of sight was equivalent to $\frac{2}{7}$ of normal; in the left eye, $\frac{2}{5}$ of normal. This deficiency in visual acuity was probably due to the presence of mixed astigmatism. In the right eye the optic disc was a vertical oval, bounded at its outer margin by a black line, its surface a little woolly, and all the capillaries injected; the edges of the disc, however, were not obscured. In the left eye the disc was distinctly grayer in color, its hue being manifest through a superficial injection of the surface capillaries. The temporal half of the disc was unobscured; the nasal edges slightly blurred. In neither eye was the disc swollen, nor were there any splotches nor hæmorrhages in the retina. The pupils of both eyes were equal in size, and reacted normally to the changes of light and shade, convergence and accommodation. The hemiopic pupillary inaction (Wernicke's symptom) was not present in either eye. There was complete right lateral hemianopsia, the field of the left side being proportionately much smaller than its fellow on the right, and both the preserved fields exhibiting concentric contraction. The dividing-line on the left side almost cut the fixing point. That on the right side, on the horizontal meridian, touched the fixing point, while above and below this it spread five degrees from the centre, making a curious reëntering angle at this point.

Dr. MILLS said: This seems to be an important case in the study of localization. It presents four or five important features: (1) The Jacksonian spasm confined chiefly to the left hand ahd arm, in the first attack at least beginning and continuing for some time before consciousness was lost. (2) Temporary paresis of the arm and leg upon this side. (3) Right homonymous lateral hemianopsia. (4) Absence of Wernicke's symptom. (5) Dyslexia. The hemianopsia seems without doubt to be cerebral in character, Wernicke's symptom and choked discs being absent. The lesion is back of the primary optic centres, and is therefore either in the optic radiations, the cuneus, or the lateral convexity of the occipital lobes. As between these the lesion is probably in part in the optic radiations. The optic radiations coming

from the primary optic centres curve around the posterior horn to the occipital convolutions. In the acts of reading and writing there is of course a conveyance of impressions by a commisural channel between the visual areas of the cortex and the arm and leg centres. We are greatly lacking in a knowledge of the coarse anatomical relations between these commisural fibres, the horns of the ventricles, the lateral ventricles, and the cortex. There seems to be a position where the commisural fibres intermingle with or abut against the optic radiations. This may be perhaps where the parietal, temporal and occipital lobes come together around the roof of the ventricle. The lesion is in the centrum ovale at a point near what might be called the parieto-occipito-temporal junction. Itis well back over the roof of the ventricle, perhaps above the place where the lateral ventricle joins the posterior horn.

Dr. DE SCHWEINITZ said that he went further than the mere ocular examination, and looked into the manner of reading and writing. This man could read two or three words and then threw away the paper with a look of disgust. Again he would pick up the paper, and, after reading a word or two, throw it down. The same thing occurred when he attempted to write. He wrote a few words, and then his hand failed to inscribe further letters, while his face gave evidence of chagrin at the abortive attempt. The points in the ocular examination were absence of optic neuritis, the presence of right lateral hemianopsia, unassisted with Wernicke's pupillary reaction. He did not wish to be understood as saying there was no disease of the optic nerves, but there was no coarse lesion like choked discs—that the nerves were gray, but not in a state of neuritis. The optic nerves were certainly not healthy, or the preserved fields would not be contracted.

In the cases reported by Berlin, six in number, and one by Nieden, post-mortems were made in several, and the lesion was found in the white matter near Broca's convolution. I have not at hand the original paper, but the following *résumé* appears in Swanzy's "Handbook of Ophthalmology:" "Dyslexia consists in a want of power on the patient's part to read more than a few—four or five—words consecutively, either aloud or to himself. * * * Although in most cases the dyslexia disappeared in the course of a few weeks, yet other symptoms soon followed its first onset, such as headache, giddiness, aphasia, hemianopsia, paralysis of the tongue, hemianæsthesia, hemiplegia," etc.

Dr. H. C. WOOD: The objection to this theory is that

one of the most important symptoms is omitted in making up the theory, that is, the contraction of the fields of vision. I do not see how it is possible to have lateral hemianopsia with contraction of the field, with the optic nerves healthy and yet not have a lesion of the cuneus or the cuneal region of both sides.

There is one point that we forget in the discussion of these cases, and that is, that we do not know whether the symptoms presented coexisted in the beginning, or whether some are primary and some secondary. Dr. de Schweinitz will recall a case of tumor of the temporal lobe, which we studied together, in which we had all the symptoms described to-night but the dyslexia. If we suppose a tumor a little more forward and higher up, encroaching upon the Broca region and interfering with the posterior cerebral artery, and considered that the hemianopsia is due to optic neuritis, we will have a possible explanation of the present case.

EXHIBITION OF A CHINESE BRAIN.

By Dr. JAMES HENDRIE LLOYD.

The study of the comparative morphology of the brains of the various human races is of more interest to the anatomist and evolutionist than to the clinical neurologist or the practical alienist. I present this brain to demonstrate the truth of this statement. It does not exhibit any very marked differences from brains of the Caucasian and other races. The description of such brains pertains entirely to pure and abstract science, and I think is of very little practical importance.

From the way in which Chinese brains have sometimes been regarded, the impression seems to be that the Chinese are an inferior race and that in them we have to look for evidences of low type. I think that is illogical and without foundation of fact or historic evidences. The Chinese are not a low race of men in any sense. The Chinese stock is different, historically and ethnologically, from the Caucasian stock. It has gone on in its own line of development, and may have produced some slight differences in the architecture of the brain which might appeal to the eye of those expert in examining the morphology of the brain; but such differences are not necessarily evidences of inferiority.

We must remember that there are different kinds of Chinese, just as there are different kinds of Americans.

I have no doubt that some Chinese have worse-developed brains than others. This brain was removed from such a Chinaman as we frequently see in this country, a poor, miserably developed little Mongolian, who died of tubercular meningitis, under my care, in the Philadelphia Hospital.

There is no doubt that in this particular Chinese brain there is a certain simplicity of structure and absence of richness of convolutional development. In other words, the brain looks almost like some of the schematic drawings seen in books exhibiting the primary fissures. There is also in the occipito-parietal fissure what has been shown to be of rather a Simian type, that is, the external *pli du passage*, or bridging convolution, which in a well-developed brain comes to the surface, forming a well-rounded convolution, is in this hemisphere quite distinctly below the surface. This is perhaps the strongest evidence of this brain being below ordinary development. Besides this there is nothing to warrant the assertion that this is a low-type brain.

General inspection of the surface of both hemispheres shows a simplicity in the arrangement of the fissures and convolutions. There are some slight differences between the two hemispheres; for instance, the right Sylvian fissure is much shorter than the left. Another notable feature (proving perhaps a rather unusual tendency to a confluence of fissures) is the fact that the right first temporal fissure is confluent with the anterior portion of the inter-parietal; hence the *angular gyrus* (about which as a centre of vision so much was formerly written) is not well marked in the right hemisphere. Any other differences which I have noted in this brain are entirely of minor importance, except perhaps the following:

In the right hemisphere, as already stated, the superior external *pli de passage* (the convolution uniting the parietal with the occipital lobe) is small, narrow, and distinctly depressed below the surface; while in the left hemisphere it is well developed and up to the surface. The imperfect development of this convolution is regarded by some as an evidence of low type. When below the surface, it permits the division of the parietal from the occipital lobe to be much more clearly seen than is usual in the more highly developed human brain. It is a condition, I believe, not uncommon in the Simian brain.

Dr. CHAS. K. MILLS.—While these studies of brains may at present be useless from a medico-legal standpoint, yet

the fact is that in low-type brains, whether Chinese or Caucasian, there is a great simplicity of convolutions and fissures with certain special peculiarities. This is also seen in criminal and imbecile brains. These facts show that this is fundamentally a correct method of study. It is, however, not the only method, and is to be used in connection with other methods, as microscopical and pathological. In order to reach positive conclusions, we must study a large number of brains, both from the lower classes and from the higher classes.

Dr. J. MADISON TAYLOR said that in forming an opinion as to facial peculiarities from examination of the brain, and especially among the older Oriental peoples, it is needful to take into careful consideration class distinctions. These among the Chinese are drawn into the sharpest lines. Development of special types along these lines, running as they do for centuries, is inevitable. How this may be manifested by brain-shapes we can only learn by comparing many of one class with many of another. So far we have only the lowest offscouring among us of the Chinese representatives of the droppings of all classes. Among these we may look with small hope for aught but low types. On the Pacific slope a few of the best upper classes—the artisans and merchants—are seen. Here can only be had the brains of the pariahs, and even these bred in sin till the resultant is obviously unlovely.

Dr. JAMES HENDRIE LLOYD.—As I have said, these studies are of importance to the comparative anatomist and the evolutionist, but they are of little clinical interest, of no practical value to the alienist, and devoid of medico-legal importance. It is nothing but an assumption to say that these studies are made upon a low-type race. I do not think, because there are social castes, that the lowest caste has a different type of brain from the others. Caste is a matter entirely of social development, and has nothing to do with such an occult matter as the size and shape of the cerebral convolutions. It is notorious that examples of idiocy and low-type brains are common among the higher classes in countries in which class distinctions are most recognized, and, on the other hand, that the best-developed brains often spring from the so-called common people. The infusion of the blood of the people is all that saves many privileged classes from sinking into a very low type indeed.

Stated Meeting, November 25, 1889.

Vice-President, Dr. WHARTON SINKLER, in the Chair.

Two recent specimens were presented by Dr. CHARLES K. MILLS:

I.—HÆMORRHAGE BENEATH THE SCALP, AND CEREBRAL AND CEREBELLAR HÆMORRHAGES IN A CASE OF ALLEGED TRAUMATISM.

This specimen was from a woman about sixty years of age, of whom it was alleged that she was struck on the head by her husband, both she and her husband being at the time drunk.

The following are the notes taken of the condition of the patient after admission to the hospital:

She was admitted on November 22d, at 10.30, in an unconscious condition. She lies upon her back, eyes closed; perfectly quiet, and does not move unless disturbed. On examination an area of discoloration is found on the left cheek, extending to the eye on the same side. The left eye is swollen and blackened, and the whole of the right side of the face seems slightly swollen. On the right side of her head, about the posterior superior angle of the parietal bone, is an area about two inches in diameter, nearly circular in form, which feels like a boggy mass underneath the skin. No fracture of the skull is apparent. Both ocular conjunctivæ are chemosed, especially on the right. Her head deviates to the left side, and the left eye is turned to the left and moderately dilated; the pupil is immobile. The right eye is straight, the pupil is very small and immobile. She has no marked paralysis of the face; the left cheek is puffed, and is drawn in and out on expiration and inspiration. The left arm is paretic—not completely paralyzed; she seems to have slight power of moving this arm, but only does so when irritated. The forearm is always carried at a right angle with the arm; the wrist and fingers are partially flexed. The right arm is considerably more rigid than the left; the forearm is at an obtuse angle to the arm; the wrist and fingers nearly extended. Both hands are cold. The left lower extremity is fully extended, and the right leg is partially flexed at the knee; the foot is extended and inverted, and partial loss of power is undoubtedly present in both extremities. The feet are cold. The left knee-jerk is diminished, the right normal. Sensation

is present in the face, body, and lower extremities, but seems to be abolished in the upper extremities. Her breathing is stertorous and at times of the Cheyne-Stokes type. She swallows with difficulty, and passes her fæces and urine involuntarily. Her pulse is regular, of moderate volume. The heart and lungs appear to be normal. Examination of the urine gives negative results.

The following is a record of temperature, pulse, and respiration:

Temperature,	97°;	pulse,	78;	respiration,	21—	on admission.
"	97.2°;	"	72;	"	24—	1 A. M.
"	97.4°;	"	64;	"	24—	4 P. M.
"	97.1°;	"	90;	"	18—	noon.
"	98.4°;	"	100;	"	24—	7 P. M.
"	99.1°;	"	64;	"	20—	10.30 P. M.

November 24, 1889.—This morning the patient seemed to be rather improved; her breathing was less stertorous in character, more regular, and her pulse quite good. She is still unconscious. Motor and sensory disturbance almost the same as yesterday, except that sensation seems to be present in the upper extremities but abolished in the lower. When pressure or percussion is made over the injury to the head the patient moves her arm on the right; this may be due to pain. The left pupil is not quite so much dilated, and the right one seems a trifle larger; both are immobile.

November 24, 1889.—In the evening she relapsed into complete unconsciousness, her breathing became more labored, her pulse rapid and weak; there were trachial rales, and the patient died at 5.30 P. M.

Temperature,	98 4°;	pulse,	85;	respiration,	19—	1.30 A. M.
"	98.4°;	"	76;	"	18—	4.30 A. M.
"	98.2°;	"	80;	"	22—	8.30 A M.
"	98.2°;	"	100;	"	22—	11.30 A. M.
"	99.6°;	"	104;	"	20—	1.30 P. M.

Autopsy.—The scalp over about one-half the parietal bone and the upper border of the squamous portion of the temporal bone was infiltrated with blood having a bruised appearance. On separating the scalp from the skull a flattened clot was found in the middle of this area between the scalp and bone. On removing the skull-cap no clot was found between the dura mater and the bone. There was a small subdural ecchymosis, subdural related to the

middle of the squamous portion of the right temporal bone. A clot five inches long and two and one-quarter inches broad was found underneath the dura mater covering the two upper convolutions of the temporal lobe, and reaching over the lower border of the parietal and frontal lobes. Another clot, one inch by one and one-half inches, was found on the surface of the left cerebellar hemisphere at its anterior and lower border. No blood was found at the central portion of the base of the brain. On opening the horns of the lateral ventricles and the ventricles themselves, no hæmorrhage was found. Sections through the ganglia and tracts showed that the large hæmorrhage originated within the cerebrum, probably from a point along the external border of the lenticular nucleus.

II.—EXTENSIVE CORTICAL SOFTENING.

This specimen was removed from a man who in 1884 was in the wards of the Philadelphia Hospital, but left and found his way back into the out-wards, where a few days ago he was attacked with apoplexy, He had a small right leg—an old atrophic paralysis; it was two or three inches shorter than the left leg, and much smaller in all its measurements.

The arms are apparently of the same size; if there is any difference, the right is larger than the left, as is found in right-handed men.

His condition on November 21, 1888, at three P. M., was noted as follows: He lies upon his back with his head turned toward the left; opens and closes his eyes from time to time, and moves them about in different directions. His breathing seems somewhat labored, with some tendency to ascent and descent, but no true hiatus. Nothing can be determined from the man himself, as he is not conscious to respond to questions or to perform any willed movements. He has a tremulous movement of the extremities. It is difficult to obtain any definite results as to sensation. Sharp points are evidently felt on the left side of the face. He does not show evidences of sensation on either side of the trunk or the extremities; when tested by a pin, the results are unsatisfactory. His right arm is contractured at an angle of a little more than 450 over his abdomen. His fingers are turned inward, slightly clawed; the middle, ring, and little finger are more firmly flexed than the index finger or the thumb—the index finger and thumb being brought together in nearly a pen-holding position. He has little or no power in the right arm, but does occasionally use it,

although he cannot fully extend it nor use the fingers and hand.

His right foot and leg have a purplish appearance—toes are all clawed and bunched together; the nails are very deficient. The whole foot is in a bad vaso-motor or trophic condition. The leg does not seem cold. He does not move the right leg—the palsied and atrophied one—but he frequently moves the left arm and leg, and the latter is quite spastic at the knee.

Knee-jerk is abolished, both on the right and left sides. His condition as to motor power seems to be that he has an old palsied and atrophied lower right extremity, and is at present suffering from an apoplectic attack, which has affected his right face and arm, and has probably deepened the paralysis of his right leg, if this was not already complete.

The electrical reactions to faradism, November 22, 1889: The muscles of the quadriceps extensor on the right side respond well, but other muscles of the thigh do not. There is no response in the right leg to the strongest currents. At the plantar surface of the foot a medium current produces contraction of the flexor brevis digitorum, and flexor brevis pollicis; the others do not respond. His urine passes involuntarily.

The pupils are equal, with a median degree of dilatation. The wrinkles on the left forehead are much more defined than those upon the right side; orbicularis palpebrarum of the left side is much stronger than on the right. The right side of the face and mouth droop somewhat.

This man has the peculiar state of consciousness noticed in some cases of apoplexy, namely, while irresponsive to questions and tests, he opens or half opens his eyes and looks about, as if half conscious of his surroundings. He does not speak, nor does he seem to know what is said to him.

The following notes were taken November 22, 1889: There is a decided deviation of both head and eyes to the left. The pupils remain about the same as before. The sensory and motor symptoms are unchanged, except that the spasticity of the muscles of the left thigh is increased, producing flexions of the leg at an obtuse angle to the thigh. There is slight spastic contraction of the flexor muscles of the left arm, but not nearly so well marked as that of the thigh on the same side. He moves his left arm at intervals, but no voluntary movements of his left leg are noticed. The whole of the right side is immobile. On the

next day there are no changes in the symptoms except that all are more marked and the patient is failing rapidly. He died at 3.45 P. M.

Autopsy.—November 23, 1889. The upper extremities of the right ascending parietal and frontal, and right superior frontal convolutions, seem to dwindle in size as compared with the corresponding convolutions on the opposite side; large diffused area of cortical softening, involving about one inch of the ascending parietal, lower border of the superior parietal, and entire inferior parietal convolutions on its lateral aspect, partly on its Sylvian aspect. One of the branches of the cerebral vessels was occluded, and the middle cerebral itself, where it gives off its four cortical branches, is partly occluded. Loose clots are found in several portions of the middle cerebral region. There are no lesions of the interior of the cerebrum. The cord was removed and will be subjected to microscopical examination. The kidneys show considerable interstitial changes.

TUMOR OF THE BRAIN (EXHIBITED BY DR. GUY HINSDALE).

The patient from whom this tumor was taken was under the care of Dr. R. M. Girvin, of West Philadelphia. He was seen by Drs. W. W. Keen, Morris J. Lewis and C. A. Oliver. As Dr. Keen will report the case in full elsewhere, I will state only the main facts relating to it.

CASE OF N. F., æt. 17.—In November, 1886, he fell from the roof of a stable twenty feet, breaking his right thigh and left forearm. He also struck and cut his chin, knocking out one of his front teeth. His head was not known to have been struck. He was rendered unconscious by the fall for a considerable time, but by the next day all the cerebral symptoms had passed away. Consumption, diabetes and insanity exist in three persons in the two prior generations of his family. His father, his sister and himself also have been subject to asthma, and he to chronic nasal catarrh.

In April, 1889, his right knee sometimes gave way under him, and gradually the right arm became affected to a less degree, and, as throughout the whole case, so in these two limbs, a curious alteration took place, the leg sometimes being weak without the arm being attacked, and *vice versa*. Headache began about this time with a marked dragging

gait, and sometimes nausea and vomiting. Soon afterward two convulsive attacks occurred with blindness.

Dr. Keen saw him first on October 1, 1889. The evidences of tumor were very clear, and with it he had ophthalmoplegia, both interna and externa. This ophthalmoplegia varied curiously in degree from day to day. The lower part of the right face was also paralyzed. In view of the extensive symptoms, both of the cortex and the base, it was thought that one very large tumor, or possibly two small ones, existed, and it was decided not to operate. The boy died on November 18th. The post-mortem was made thirty hours after death. The outer surface of the brain looked entirely healthy, but the moment that the median surface was exposed a tumor was found protruding into the median fissure from the left side. In the manipulation necessary to remove the brain from the skull, this tumor enucleated itself. It was 3¼ inches by 2¾ inches, and lay directly under the motor area; it lay in the white substance and extended well down toward the base.

DISCUSSION.

Dr. OLIVER.—As it is the intention of Dr. Keen and myself to present the details of this case in full at a future time, I will merely state that when I first saw the patient there was a marked double neuro-retinitis of equal degree of swelling and density, associated with right homonymous hemianopsia; the remaining fields being limited to ligl. perception, which on the right side had become almost entirely lost. Both pupils were dilated to seven millimetres, and the irides were absolutely immobile to the strongest light stimulus. All of the extra ocular muscles were impaired in both monocular and associated action; the utmost movement of the superior recti were about four millimetres; the inferior about three millimetres; right associated movement about one or two millimetres; left associated movement still less; whilst internal associated movement could not be obtained at all. There was also ptosis, more pronounced on the right side.

Upon a second visit two days later, the partial external ophthalmoplegia had altered in relative amounts of muscle action, whilst the left pupil had become smaller, though the iris was still immobile to light.

Two days after this the remaining field of the right eye had become "black blind."

Dr. Hinsdale also exhibited three large sections of a brain tumor from a patient of Dr. H. C. Wood (case reported in the *University Medical Magazine*, Phila., April, 1889).